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ABSTRACT

In order to determine how much objective evidence exists regarding the effectiveness of career education programs in U.S. schools, American Institutes for Research in Behavioral Sciences (AIR) conducted a comprehensive, national search for well-evaluated activities. The initial nominations of 394 programs were received from state career education coordinators, national laboratories and centers, third-party evaluators, the U.S. Office of Education, and other individuals and institutions prominent in the field. Two hundred and fifty-seven of these programs chose to participate and submit evaluation documents. These activities were then screened according to the following criteria: (1) be in operation for at least one year, (2) be formally evaluated since June 1974, (3) be able to supply a written evaluation report, (4) not be commercially published, (5) be still operating, (6) include a comparison group/standard in its evaluation design, and (7) show evidence of effectiveness. Only sixty-four activities satisfied the criteria at this preliminary level, and following the application of more stringent criteria in two subsequent reviews, only ten were found to be fully well-evaluated activities. (These ten activities were then considered by the Joint Dissemination Review Panel for nationwide dissemination--see CE 020 214.) Based on the discrepancy between the initial number of nominations and the final number of passing activities, it was concluded that a great lack of information exists in the field as to what constitutes a well-evaluated career education program. (EL G)

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Finding Well-Evaluated Career Education Activities

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When AIR began its national study of career education evaluation,[1] we felt that identifying a pool of career education projects would not pose a problem. In the 1974-75 academic year, AIR had conducted a national survey of career education in the public schools for the U.S. Office of Education (McLaughlin, 1976). That survey defined 15 types of career education learning activities and found that 52% of the nation's students were in districts where at least one of those activities was broadly implemented. In fact, a fifth of the students were in districts where over half of the 15 activities were well established. More than half of the school districts surveyed were conducting some form of career education staff development. Eighty-four percent of the states had adopted a formal, written career education policy. Over a third of the states had career education advisory councils. Fifty-six percent of the states had a full-time career education coordinator at the state level. Thus, there was substantial evidence that a large amount of career education activity was taking place in the public schools.

The crux of AIR's task in the study discussed in this paper was to determine how much objective evidence there was regarding the effectiveness of these numerous activities. AIR's earlier study had reported that 30 states carried out some type of career education evaluation but that many of these evaluations were largely subjective. With the increasing emphasis on educational accountability, program staff at the federal, state, and

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local levels needed to be aware of the prevalence and the quality of evaluation data in the area of career education.

The procedures that AIR followed in identifying well-evaluated activities in career education have been documented in a journal article in a forthcoming issue of Measurement and Evaluation in Guidance (Hamilton, Baker, & Mitchell, in press). My presentation today will emphasize the results of implementing those procedures, including implications for local staff involved in career education.

AIR conducted a comprehensive search for well-evaluated activities. At the beginning of the project, Anita and Jack visited Washington, D.C. to meet with appropriate USOE and National Institute of Education (NIE) staff, who supplied leads to prospective activities. In addition, government staff who were knowledgeable about other sources of funding for career education activities were consulted. This led to contacts with staff from USOE's Bureau of Education for the Handicapped, the Department of Labor, and the National Manpower Institute. By attending the Fall 1977 meeting of the National Advisory Council on Career Education in Washington, D.C., Anita received nominations from state career education coordinators who were present.

In addition to these direct contacts, AIR sent letters requesting activity nominations to: (1) State Education Agency (SEA) coordinators of career education, vocational education, pupil personnel services, and research coordinating units; (2) national laboratories and centers; (3) third-party evaluators; (4) other individuals and institutions prominent in career education; and (5) contact persons who surfaced from searching conference material generated by the Commissioner's National Conference on

Career Education in Houston in November 1976, the annual forums on education and work supported by NIE, regional career education conferences, and Office of Career Education mini-conferences. This search produced the names of 296 persons knowledgeable in career education, and letters requesting nominations of evaluated, exemplary career education activities were sent to all of them. AIR felt that these personal contacts and letters constituted a comprehensive search for well-evaluated activities.

In our letters to potential nominators we set forth three criteria that were prerequisite to nomination. The activity had to meet the following conditions:

(1) It had operated for at least a year.

(2) A formal evaluation of the activity had been conducted since June 1974.

(3) The evaluation report was written and available.

As a result of this mailing, letters were received nominating 394 activities.

Each nominated activity director was sent a letter explaining the purpose of AIR's study and how the activities being contacted had been identified. A memo from Ken Hoyt (Office of Career Education Director) that accompanied the letter stated that USOE had contracted with AIR to identify career education activities having objective evidence of effectiveness. In addition to the criteria mentioned earlier (that the activity had operated for at least a year, that a formal evaluation had been conducted since June 1974, and that a written evaluation report was available), we specified that the activity had to be still operating and that the activity had not been packaged and sold commercially. These latter requirements were a result of our need to prepare JDRP submissions should the activity pass our screening criteria. We felt we should visit the activity to validate the evidence of effectiveness contained in written reports and to collect process documentation;

also, JDRP does not review commercially packaged activities.

We received evaluation documents from 257 activities; of the remaining 137 activities, some directors did not respond at all, while others responded by stating that their activity did not meet AIR's preliminary criteria for consideration.

Separating activities that produced educationally and statistically significant effects from those that did not required development of a set of well-defined criteria that could be applied objectively and consistently to the review of each submitted activity's evaluation report. The development of these criteria has been documented in an article appearing in a forthcoming issue of Journal of Research and Development in Education (Baker, in press). The results of applying the criteria are discussed below.

It was essential to conduct a rough screening first to separate activities that clearly did not qualify as well-evaluated activities from those that might qualify. At this first level of screening, activities had to meet the following criteria to be eligible for further review:

(1) The activity had not been commercially published.

(2) The activity was still operating.

(3) The activity had been formally evaluated since June 1974.

(4) A written evaluation report was available.

(5) The activity could properly be classified as career education (as opposed to providing training for a specific job).

(6) The evaluation report concluded that there was evidence of effectiveness.

(7) The evaluation design included a comparison group/standard of some kind.

I invite you to make your own prediction of how many of the 257 evaluation reports reviewed actually passed the screening at this level. Only 64 activities, or 25%, survived this first cut. What do you suppose was the most common reason for failure at this level? It was lack of a comparison group or standard in the evaluation design. The omission of such a reference could not be ignored, for this is what allows one to rule out alternative explanations of treatment effects.

In all there were three stages of review, with criteria becoming more stringent at successive levels. I have just told you about Level I criteria. Screening at the other two levels was more complex and frequently required a more subjective analysis; for this reason, two independent reviews were conducted for each activity reaching Levels II and III. These criteria required that there be sound evidence that the career education activity was, in fact, responsible for the observed change in participants.

Level II criteria were concerned with activity objectives, treatment procedures, and evaluation design and methodology. Project staff reviewed the measures used to determine that they were either standardized tests or locally constructed tests with reasonable and verifiable validity and reliability data. Another area investigated at this stage was the appropriateness of the statistical procedures and analyses for the evaluation design. We also assessed the comparability of treatment and comparison groups as well as whether the data collection procedures followed could have introduced bias, thus invalidating the results. Such biases could include data collection by persons involved in the activity and thus interested in positive results, and lack of standardized test administration procedures.

After an activity was reviewed at Level II, the decision was made to accept it; to provisionally accept it (pending receipt of further information from the local site); or to reject it. Only a few evaluations received an unequivocal "acceptance" judgment from both raters at the Level II review. For a small number of others, more information was sought by mail or telephone contact before a final decision of either acceptance or rejection could be reached. Ultimately, 20 of the 64 activities passed Level II review (this is equivalent to 8% of the total activities nominated). The most common reasons for rejecting an activity at Level II were the lack of testing for statistical significance of student outcome data; flaws in the evaluation designs, especially the manner in which comparison groups were formed; and faulty data collection/management procedures that could have introduced error or bias.

The 20 activities that had survived the first two reviews were analyzed one more time. At this level, evidence of the educational significance of the results as well as their statistical significance was considered. In addition to categories concerning evaluation methodology, Level III criteria dealt with process documentation--it was essential that instructional and management processes be well defined to enable administrators and teachers to replicate the activity in their own settings. A further consideration was whether the materials, equipment, and facilities required to operate the activity were reasonably available to most school districts.

Now, of the 394 nominations that we received; or of the 257 activities that we screened; or of the 20 that we reviewed at Level III--how many do you think passed our Level III criteria? Of all the activities that had been nominated as exemplary by persons knowledgeable in the field of career education, we agreed that five were indeed exemplary. However, by contacting

local personnel to get more information, we were able to come up with five additional projects that eventually passed the Level III review and were subsequently site visited. In some cases we had to reanalyze some student data ourselves, while in others we had to request local staff to conduct additional analyses.

Implications for Local Staff Involved in Career Education

One major conclusion stands out: there is a great lack of information in the field as to what constitutes a well-evaluated career education activity (i.e., an activity with a good evaluation design utilizing procedures that are methodologically sound). This is evidenced by the discrepancy between 394 nominations received by knowledgeable people in the field and 257 activities whose directors submitted evaluation documents. That is, only 67% of those nominated sent in reports. Admittedly, we had to rely on written reports and, in some cases, the nominator may not have been aware that a written evaluation report had not been prepared. Furthermore, in some young projects summative evaluation data had not yet been collected, so--while these projects showed promise--they could not participate in our study. We can assume that these two reasons partially explain the discrepancy between number of nominations and number of evaluation documents received.

Let us look now at the 257 activities we screened; these had received double endorsement--once by nomination and once by the local director, who felt that the activity met our criteria. Further evidence of our conclusion that there is a general lack of ability to identify well-evaluated actitivies lies in the fact that only 25% of the 257 reports received passed the Level I screening process, when the memo from Ken Hoyt that was sent to nominees explained that we would be identifying only activities that had collected hard evaluative evidence of effectiveness. It appears that a significant

number of local directors are not sufficiently aware of evaluation methodology to appraise the quality of the evaluations conducted on their activities.

On the basis of this study, AIR has formulated some recommendations as to how local educational evaluations (in this case, career education evaluations) can be qualitatively improved. Jack and Anita will share these recommendations with you.

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